

Taxonomic Remarks on the *Anthyllis hermanniae* L. (Fabaceae, Faboideae) Species Complex of the Mediterranean Flora

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ABSTRACT. Taxonomic revision of the populations belonging to the *Anthyllis hermanniae* L. species complex (Fabaceae, Faboideae) of the Mediterranean flora is given. Two distinct species are recognized: *A. hystrix* (Willkomm ex Barceló) Cardona, Contandriopoulos & Sierra, restricted to Minorca (Balearic Islands), and *A. hermanniae*, widespread in the central and eastern Mediterranean area. Within *A. hermanniae*, seven new subspecies are recognized: subspecies *hermanniae* (northeastern Mediterranean area), subspecies *melitensis* (Maltese Archipelago, Malta), subspecies *sicula* (Italy, Sicily), subspecies *bruttia* (Italy, Calabria), subspecies *japygica* (Italy, Apulia), subspecies *ichnusae* (Italy, Sardinia), and subspecies *corsica* (France, Corsica). Each of these new taxa is described and illustrated. A key of the surveyed taxa is provided.

Key words: *Anthyllis hermanniae*, Fabaceae, IUCN Conservation Status, Mediterranean.

According to the literature (Cullen, 1968; Rame-mark, 1969; Browicz, 1978; Pignatti, 1982; Benedl, 2000), *Anthyllis hermanniae* L. (Fabaceae, Faboideae) is a small shrub distributed mainly in the northeastern Mediterranean area, with some disjunct ranges, sometimes punctiform, in the central and western Mediterranean region. The taxon occurs on various substrata, such as limestone, dolomite, volcanic rock, granite, schist, gneiss, calcarenite, and marl, from sea level to 2400 m.

Field and herbarium investigations demonstrate that the eastern populations are quite homogeneous, while those from the central and western Mediterranean region show a remarkable morphological and ecological variability. Therefore, *Anthyllis hermanniae* is considered a species complex, with scattered and well-differentiated populations whose taxonomic status needs to be clarified.

In this framework, we did an intensive study of this group carried out chiefly on living material cultivated in the Botanical Garden of Catania, Italy. In particular, we examined specimens from Corsica, Sardinia, Sicily, Malta, Calabria, and Apulia, as well as those occurring in the Balearic Islands, Balkan Peninsula, Anatolia, and the Aegean Islands.

Cardona and Contandriopoulos (1983) and Cardona et al. (1986) consider *Anthyllis hystrix* (Willkomm ex Barceló) Cardona, Contandriopoulos & Sierra, with a population restricted to the Balearic Islands, to be a distinct species well differentiated by its morphology and karyology. *Anthyllis hystrix* has been previously treated as a variety or subspecies of *A. hermanniae* (Barceló i Combis, 1880; Bolòs & Vigo, 1974). It clearly differs from the other allopatric populations of *A. hermanniae* by having a thorny pulvinate habit, simple leaves, small solitary flowers (max. 5 mm), and a hexaploid chromosome complement (Cardona & Contandriopoulos, 1983). In contrast, *A. hermanniae* is a laxly subspinescent shrub, with leaves 1- to 5-foliolate, larger flowers (6–11 mm) in fascicles of 2 to 6, and a diploid chromosome complement (Cardona & Contandriopoulos, 1983).

Within other Mediterranean populations of *Anthyllis hermanniae*, further morphological differences, principally in the shape and the size of the flowers, have been observed. Based on these characters, the eastern Mediterranean populations (i.e., Montenegro, Albania, Greece, Crete, Turkey) correspond to the Linnean type for the species, while those of the central Mediterranean show marked heterogeneity. In particular, it is possible to recognize taxa corresponding to those populations occurring in Corsica, Sardinia, Sicily, Malta, Calabria, and Apulia. Due to the long geographic isolation, all these populations may be considered as schizoendemics, and therefore they are treated here as subspecies of *Anthyllis hermanniae*.

1. *Anthyllis hystrix* (Willkomm ex Barceló) Cardona, Contandriopoulos & Sierra, Taxon 32: 324, 1983. Basionym: *Anthyllis hermanniae* L. var. *hystrix* Willkomm ex Barceló, Fl. Bal.: 112, 1880. *Anthyllis hermanniae* L. subsp. *hystrix* (Willkomm ex Barceló) O. Bolòs & Vigo, Bull. Inst. Catalana Hist. Nat., Sec. Bot. 38: 71, 1974. TYPE: [Spain. Balearic Islands: Minorca] “planta frequentissima est in locis si laurentii cundo ad montem lauri, insula balear. minoris, cult. Varia.” *Salvador s.n.* (lectotype, designated by Cardona et al. (1986: 22), BC-Salvador).

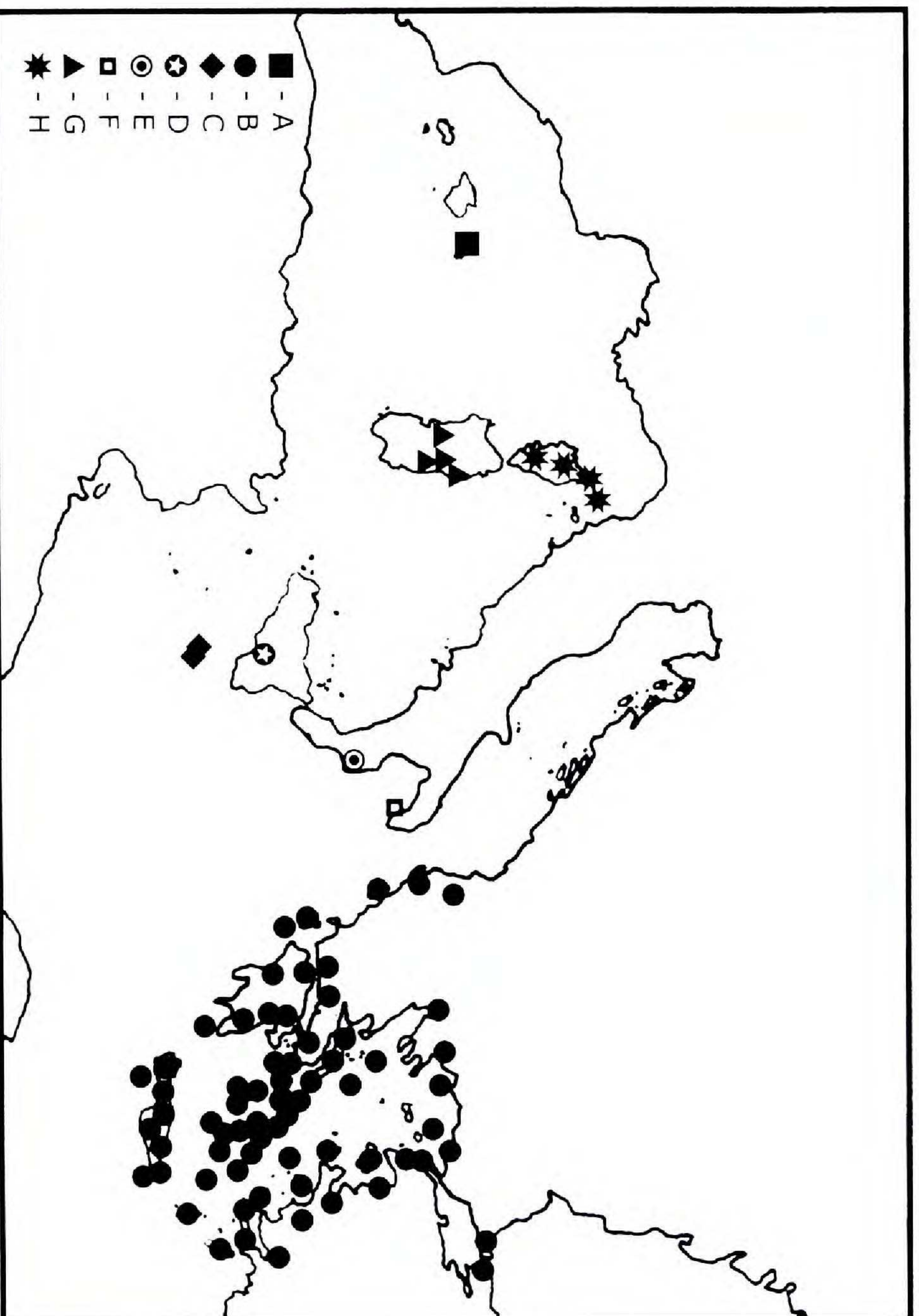


Figure 1. Geographic distribution of —A. *Anthyllis hystrix*. —B. *Anthyllis hermanniae* subsp. *hermanniae*. —C. *A. hermanniae* subsp. *melitensis*. —D. *A. hermanniae* subsp. *sticta*. —E. *A. hermanniae* subsp. *brutia*. —F. *A. hermanniae* subsp. *japygica*. —G. *A. hermanniae* subsp. *ichnusae*. —H. *A. hermanniae* subsp. *corsica*.

Thorny pulvinate shrub, 25–50 cm tall, with tortuous woody branches densely spiny, terminally aphyllous, pubescent to subglabrous. Leaves simple, rarely 3-foliolate, linear-lanceolate, acute, generally inserted on brachyphylls of imbricate, semi-amplexicaul leaf sheaths. Flowers solitary, rarely in fascicles of 2 flowers, shortly pedicellate, inserted in axil of foliaceous bract. Calyx sericeous, campanulate, bilabiate, 1.8–3 mm long, with teeth triangular, subequal, 1/4 tube length; corolla yellow, standard rounded at apex, 4–5 mm, wings 3.5–4 mm, keel 3–3.5 mm, staminal tube 3–3.5 mm, pistil 3–3.5 mm, many-ovuled, stigma globose. Legume 3–3.5 mm long, 1-seeded, obovate, laterally slightly compressed, veined and exerted from the calyx.

Habitat and distribution. According to Cardona et al. (1986), this species grows exclusively on calcareous or siliceous rocks, along the coastline of Minorca in the Balearic Islands, Spain (Fig. 1). It is localized within subhalophilous communities of the Crithmo-Limonietea class according to the classification of Braun-Blanquet (Braun-Blanquet et al., 1952). More rarely, it is found at higher altitude stands within the thorny pulvinate vegetation identified as *Rosmarinetea officinalis* class in Rivas-Martínez et al. (2002).

Phenology. Flowering April to May; fruiting May to June.

Chromosome number. $2n = 84$ (Cardona & Contandriopoulos, 1983; Cardona et al., 1986).

Conservation status. LC (IUCN, 2001, 2003).

Populations belonging to this species are the westernmost of the *Anthyllis hermanniae* group. Due to the long geographic isolation, likely to have begun in the Tertiary, the populations of *A. hystrix* are well differentiated based on their karyology. An iconography of this species has been issued by Cardona et al. (1986, figs. 1, 2, 3).

Additional specimens examined. SPAIN. **Balearic Is-**

lands: “Balearium, Insula Minore, in rupesribus maritimi inter Fornels et Pinon de l’Anticristl, sol. calcar., Aug. 1885,” *Porta & Rigo s.n.* (B, Fl, G, W); “in pascuis petrosis maritinis prope pagum Fornello, 6 Jul. 1875,” *Porta & Rigo s.n.* (B, W); “in pascuis saxosis maritinis circa Fornels et inter Fornels et Cabo Caballeria, 8 May–6 Jul. 1885,” *Porta & Rigo s.n.* (NAP); “Minorca, in sabulosis pentibus, 1876,” *Rodriguez s.n.* (W); “Minorca, Cabellina,” *Kennedy 52* (B); “Minorca, playa de Cabo Caballeria, 13 Jun. 1980,” *Castronejo, Lopez, Regueiro, Valdes-Belmejo s.n.* (W); “Menorca: plagie de Cala Mica, sur sables,” *Charpin & Massar 19248* (G).

2. *Anthyllis hermanniae* L., Sp. Pl. 2: 720. 1753.
 TYPE: Greece. "Habitat in Graecia" (lectotype, designated by Turland & Jarvis (1997: 463), LINN 897/14).

2a. *Anthyllis hermanniae* subsp. *hermanniae*. Figures 2A₁–A₃, 3A₁–A₃.

Shrub 40–70 cm tall, with woody branches, intricate and tortuous, laxly spiny, sometimes subspinescent, pubescent to subglabrous. Leaves 1- to 3-foliolate, rarely 5-foliolate, with middle leaflet larger than the lateral ones, spatulate to oblanceolate, obtuse, somewhat obtuse or slightly retuse at apex, sometimes shortly mucronate, rarely inserted on brachyphylls made of imbricate, semi-amplexicaul leaf sheaths. Flowers in fascicles of 2 to 6, rarely solitary, shortly pedicellate, inserted at axil of a foliaceous bract. Calyx sericeous, tubular, bilabiate, 3.2–4.5 mm long, with teeth triangular, unequal, the upper ones curved, 1.2–2 mm, the lower ones straight or slightly curved, 0.9–1.5 mm; corolla yellow, standard retuse at apex, 5.8–7 mm long, with claw 2.2–2.5 mm and limb 3.8–4 × 3.2–3.8 mm, wings 5.4–6.2 mm, with claw 2–2.6 mm and limb 3.4–3.6 × 1.1–1.3 mm, keel 5–5.5 mm, with claws 2–2.5 mm; staminal tube 4.5–5 mm long, anther 0.4 mm. Pistil 4–4.5 mm long, many-ovuled, stigma ellipsoid. Legume 2.5–3 mm long, 1-seeded, obovate, laterally slightly compressed, veined and exerted from the calyx.

Habitat and distribution. It is quite common in the Mediterranean region from sea level to 600–700 m, within the garigues of the Cisto-Micromerietea class (Oberdorfer, 1954). It sometimes occurs within the thermophilous communities of the Quercetalia calliprini order (Zohary, 1955). *Anthyllis hermanniae* subsp. *hermanniae* is widespread in the northeastern Mediterranean area, particularly in Montenegro (Browicz, 1978), Albania, Greece, the Aegean Islands, Crete, and western Anatolia in Turkey (Fig. 1).

Phenology. Flowering April to June; fruiting May to July.

Chromosome number. $2n = 14$ (Cardona & Contandriopoulos, 1983; Cardona et al., 1986).

Conservation status. Not endangered (IUCN, 2001, 2003).

The species was described from Greece by Linnaeus (1753), but has been recorded for many other Mediterranean localities by other authors. A watercolor iconography of *Anthyllis hermanniae* L. has been issued by Sibthorp and Smith (1832, plate 683). The morphological differences among the subspecies

hermanniae and the other subspecies are listed in Table 1.

Additional specimens examined. ALBANIA. **Valona:** "in dumetis ad Krienero, in territ. Valonae, Jul. 1889," *Baldacci s.n.* (FI, PAL); "Bezirk, Mali Lica S-hang, 8 Jul. 1980," *Krendl s.n.* (W); "Cika von Kaf'e Logara [Logara Pass] zum Mali Kores, 21 Aug. 1979," *Krendl s.n.* (W). GREECE. **Attica:** "bei Athena," s.d., *Montbret s.n.* (W); "prope Athenas," *Orphanites 388* (FI); "Athenes at Cap Colonna, 27 May 1833," *Montbret s.n.* (W); "in Imetto meridionalis, 23 May 1852," *Heldreich s.n.* (FI); "Hymettus, May 1842," *Boissier s.n.* (NAP, W); "in rup. pr. Veleeris, Jun. 1876," *Pichler s.n.* (FI, M, WU); "Rafina 17 May 1912," *Abel s.n.* (M); "Pentelikon, 17 Jun. 1897," *Leonis s.n.* (FI); "Mt Parnos, Apr. 1933," *Guidi s.n.* (FI); "in M. Parnethi pr. Dekeleiam (Hod. Tatoi), 15 Jun. 1875," *Heldreich s.n.* (W); "in jugo montis Kithoiran supra Erithrae," *Reichinger 19926* (W); "Loutsas, Preveza, 8 Jun. 2004," *Brullo & Musarella s.n.* (CAT); Nafpaktos, Golfo di Korinthos, 9 June 2004, *Brullo & Musarella s.n.* (CAT). **Chios:** "Chio," *Aucher-Eloy 1096* (G); "Insel Chios, Kap Hellenis, ca. 5 km S Chios," *Ludtke 428* (B). **Crete:** "Candia," s.d., *Sieber s.n.* (G); "Sfakia (Creta), in saxosis ad litt. mari, May," *Heldreich s.n.* (FI); "Sitia, Taplou," *Gandoger 358* (FI); "in dumetis ad Arkanes distr. Temenas, 5 Jun. 1899," *Baldacci s.n.* (M, W, WU); "in fruticetis Sphakia, ad Hagio Rumeli, 1846," *Heldreich s.n.* (W); "Sfakia, Insula Gaudos, in collis arenosis ad promontorium Tsuno," *Reichinger 13666* (W); "distr. Hierapetra in arenosis Insulae Gaudoronissi," *Reichinger 13142* (W); "nordkuste, Knossos bei Candia, 24 Apr. 1914," *Wettstein s.n.* (M, WU); "Kommos, 1.3 km W from Ptsidia," *Shay 80556* (B); "Kalavitis (Ierapetra), 27 Jun. 2002," *Brullo & Giusso s.n.* (CAT). **Cyclades:** "Insula Syra, 1838," s.l. (W); "Insula Naxos, ad H. Joannis," *Leonis 82* (M, W, WU); "Milo," s.d., *Jaquin s.n.* (W); "Thera, Phira profitis Elias Akrothiri Mikos elios zwischen Ia und Mikro elios, 14 May 1973," *Krendl s.n.* (W); "Thira (Santorini), berg Profitis Ilias, Nordst flauche oberhalb Kamari, 16 May 1990," *Raus & Sipmon s.n.* (B); "Kythera, Feloti Bay, Aghios Pelaghia presso Chora Kythera, 15 Jun. 2004," *Brullo & Musarella s.n.* (CAT). **Dodecanese:** "Rhodes, coteaux in cultes près Bastida," *Bourgeau 20* (FI); "Is. di Rodi (Egeo), Lindos Jannadi," *Fiori 249* (FI); "Karpathos," *Forsyth-Major 81* (FI); "inter Spoa et Mte Lasto (Karpathos), 2 Jun. 1883," *Pichler s.n.* (FI, M, WU); "Insula Karpathos, ad boreo-occidentem, parti Finiki, versus promontorium," *Greuter 5150* (W); "Karpathos North-West exponenrte Schlucht zwischen Lefkas und Mesocon, 25 May 1983," *Raus s.n.* (B). **Epirus:** "Ioannina, Dhodhonis, 1.4 km W Platania," *Willing 8551* (B); "Arta, SW Kipseli," *Willing 8783* (B). **Evvoia:** "Insula Euboia septentrionalis in jugo inter Psacha et Achmet Aga (Prokopion) prope Hagios," *Reichinger 16422* (W). **Ionian Islands:** "dintorni di Carpi, Isole ioniche, May 1890," *Vaccari s.n.* (FI); "in M. Agi Deka, in insula Coreyra, Jun. 1888," *Baldacci s.n.* (FI, PAL, RO); "in apricis prope Garouna, in Insula Corfu," *Letourneux 335* (FI, W); "in collibus prope Argosteli, Cephaloniae, 17 Oct. 1834," *Shimper & Wielt. s.n.* (FI, G, W); "Cephalonia, Fiskardo, 8 Jun. 2004," *Brullo & Musarella s.n.* (CAT); "Insulae Zakynthos, in regi inf. montis Skopis," *Bornmüller 483* (W); Zante, May 1837, *Margot s.n.* (G). **Lesbos:** "Lesvos, around Tarti village at the S coast," *Nielsen 9772* (B); "Tokmakia Isles (NE of Lesbos), Apronisos," *Edmandson & McClintock 2487* (B). **Macedonia:** "in collibus ad Tessalonicum, Jun. 1900," *Adamovic s.n.* (W); "in pascuis saxosis submontanis int. Kortiathe, Jun. 1906," *Adamovic s.n.* (M, W, WU); "Insel

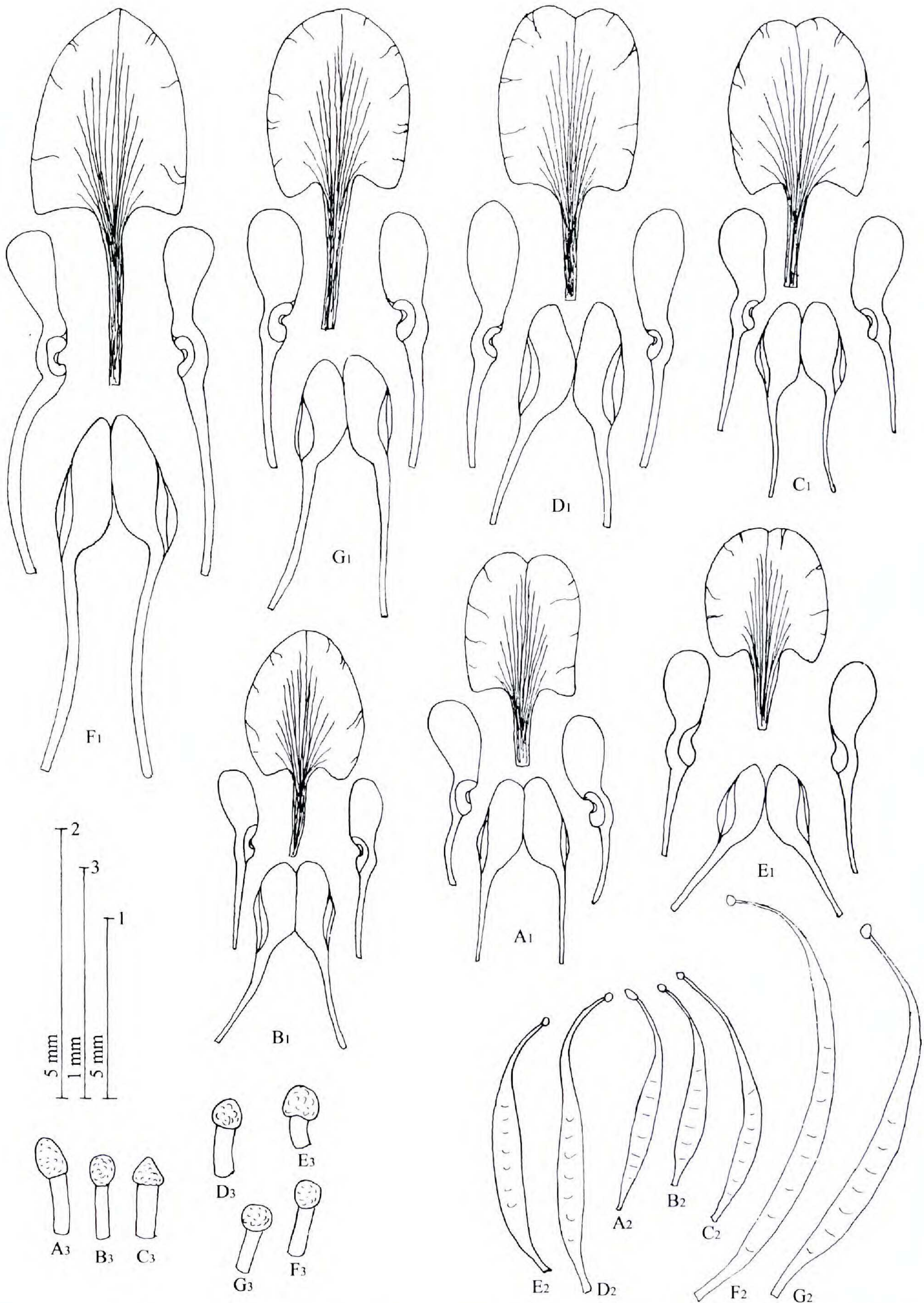


Figure 2. *Anthyllis hermanniae* L. —A. subsp. *hermanniae*. —B. subsp. *melitensis* Brullo & Giusso. —C. subsp. *sicula* Brullo & Giusso. —D. subsp. *brutia* Brullo & Giusso. —E. subsp. *japygica* Brullo & Giusso. —F. subsp. *ichnusae* Brullo & Giusso. —G. subsp. *corsica* Brullo & Giusso. —1. Corolla pieces. —2. Pistil. —3. Stigma. [A, based on "Crete, Kalavitis," Brullo & Giusso s.n. (CAT); B, based on "Saint Paul Bay," Brullo, Pavone & Ronsisvalle s.n. (CAT); C, based on *Citarda 1106* (FI); D, based on "Calabria, dune di Capo Rizzuto," Brullo & Giusso s.n. (CAT); E, based on "Puglia, Torre del Pizzo, Gallipoli," Brullo, Giusso & Tomaselli s.n. (CAT); F, based on "Sardegna, Dorgali, alla base di Mte. Tolui (presso la galleria)," Bacchetta, Brullo, Casti & Giusso s.n. (CAT); G, based on "Corsica, Vizzavona, sotto Mte. Rotondo," Brullo, Giusso, Guarino & Pott s.n. (CAT).]

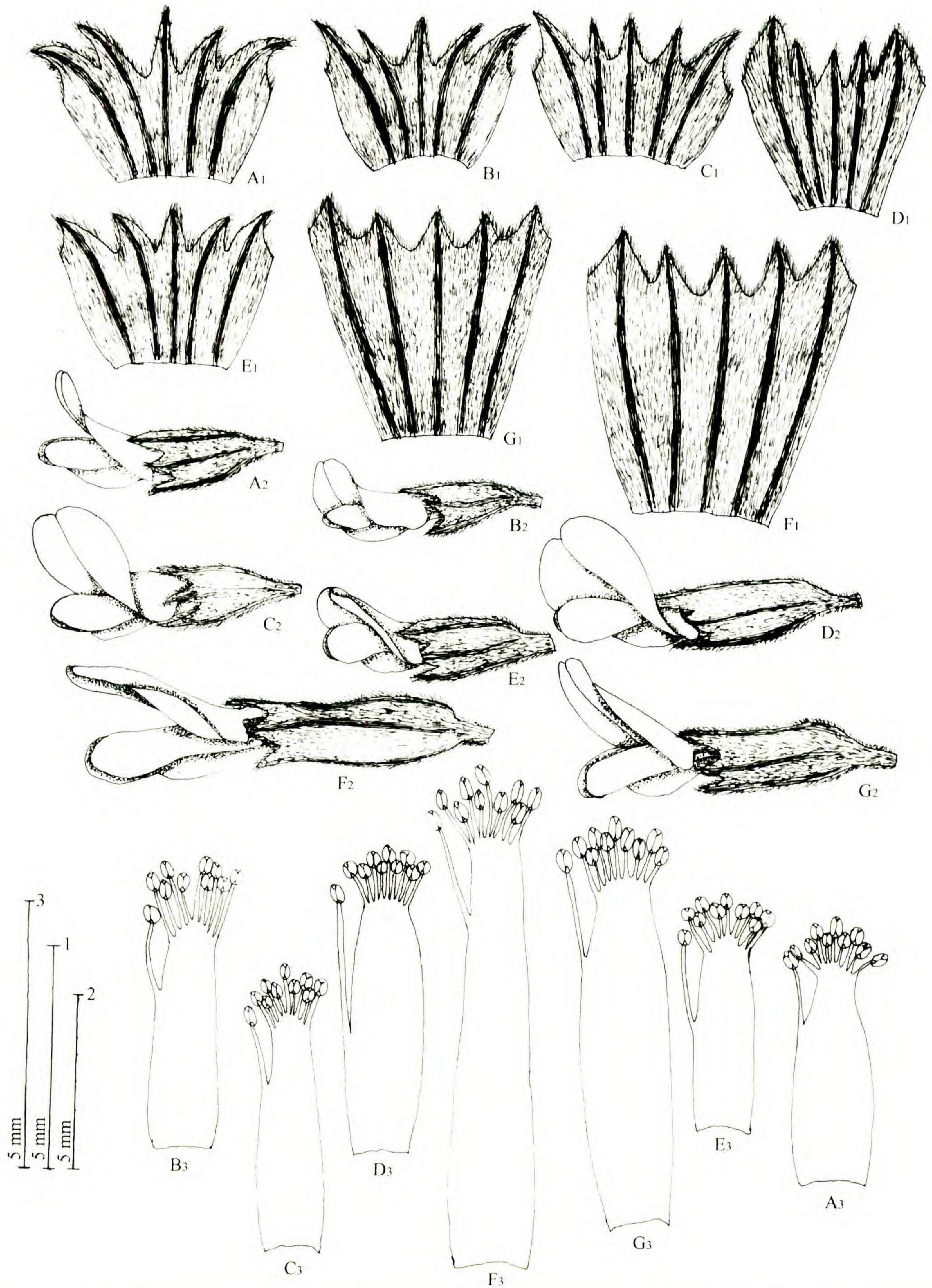


Figure 3. *Anthyllis hermanniae* L. —A. subsp. *hermanniae*. —B. subsp. *melitensis* Brullo & Giusso. —C. subsp. *sicula* Brullo & Giusso. —D. subsp. *brutia* Brullo & Giusso. —E. subsp. *japygica* Brullo & Giusso. —F. subsp. *ichnusae* Brullo & Giusso. —G. subsp. *corsica* Brullo & Giusso. —1. Open calyx. —2. Flower. —3. Staminal tube. [A, based on "Crete, Kalavitis," *Brullo & Giusso s.n.* (CAT); B, based on "Saint Paul Bay," *Brullo, Pavone & Ronsisvalle s.n.* (CAT); C, based on *Citarda 1106* (F1); D, based on "Calabria, dune di Capo Rizzuto," *Brullo & Giusso s.n.* (CAT); E, based on "Puglia, Torre del Pizzo, Gallipoli," *Brullo, Giusso & Tomaselli s.n.* (CAT); F, based on "Sardegna, Dorgali, alla base di Mte. Tolui (presso la galleria)," *Bacchetta, Brullo, Casti & Giusso s.n.* (CAT); G, based on "Corsica, Vizzavona, sotto Mte. Rotondo," *Brullo, Giusso, Guarino & Pott s.n.* (CAT).]

Table 1. Comparative scheme of the morphological characters of *Anthyllis hermanniae* L.

Characters	subsp. <i>hermanniae</i>	subsp. <i>melitensis</i>	subsp. <i>sicula</i>	subsp. <i>brutia</i>	subsp. <i>japygica</i>	subsp. <i>ichnusae</i>	subsp. <i>corsica</i>
No. of leaflets	1–3(5)	1–3	1–3	1(3)	1(3)	1–3	1–5
Calyx length (mm)	3.2–4.5	2.8–3.2(3.5)	3.5–3.7	4.5–5.5	3.5–4.5	5.5–7	5–5.5
Upper calyx teeth length (mm)	1–1.6	1–1.4	1.2–1.3	1.4–1.6	1.4–1.5	0.5–0.8	0.7–1
Upper calyx teeth shape	curved	curved	curved	straight	curved	straight	straight
Lower calyx teeth length (mm)	0.9–1.5	0.8–1	0.9–1.1	0.9–1.1	0.8–1.4	0.8–1	0.6–1
Lower calyx teeth shape	straight to slightly curved	straight to slightly curved	straight	straight	straight to slightly curved	straight	straight
Standard length (mm)	5.8–6.5	5.5–6.5	7–8	7.8–9	5.5–6.5	10–11	8–9.5
Standard limb width (mm)	3.2–3.8	2.8–3.4	3.5–4.2	4.2–4.4	3–4	4.5–4.7	3.5–4
Standard apex	retuse	rounded	retuse	retuse	retuse	somewhat obtuse	rounded
Wings length (mm)	5.4–6.2	5.2–5.5	6–6.5	7.2–7.8	5–6	10–11	7.5–8
Keel length (mm)	5–5.5	5.5–5.8	6–6.2	6.5–7	5–6	9.5–10	7–7.5
Staminal tube length (mm)	4.5–5	4.5–5	5–5.5	5–5.5	4–4.2	9–9.5	7–7.5
Anther length (mm)	0.4	0.3–0.4	0.3	0.3	0.3	0.45–0.50	0.4–0.5
Pistil length (mm)	4–4.5	3–3.5	5–5.2	6	5	9–9.5	8
Stigma shape	ellipsoid	suborbicular to ellipsoid	ovoid-sub-conical	conical-ovoid	conical-ovoid	globose	globose

Samothrake oberhalb Chora, 29 Jun. 1983," *Krendl s.n.* (W); "2 km est Podochorian, am S-Fuss des Pangaidi gebirges Nomos Kavalla, 19 Sept.–8 Oct. 1966," *Bauer & Spitzenberger s.n.* (W); "Trakien, W. Alexandropolis ca. 1 km W Makri, 22 May 1979," *Krendl s.n.* (W); "Insel Thasos, zwischen Kirini und Skala, 17 Jun. 1984," *Burri & Krendl s.n.* (W); "regi infer. Hagios Oros, Jul. 1908," *Dimonie s.n.* (M, WU). **Northern Sporades:** "Ins. Youra, ad promontorium Angistri," *Phytos & Kamari 19702* (B). **Peloponissos:** "Nauplia," s.d., *Zuccarini s.n.* (W); "Argolide," s.d., *Spruner s.n.* (W); "Achaia in collibus lapidosis prope urbem Patras," 4 Jun. 1893, *Halácsy s.n.* (B, M, W, WU); "prov. Ilio, along road from Olympia to Lalas and Lambia, ca. 3 km after the village of Miraka," *Christensen & Bruhn-Møller 1248* (W); "Laconia, ad radices australes montium Parnon in saxosis calc. inter Skala et Molaici, ca. 22 km a Skala orientem versus," *Reichinger 20013* (W); "Elis in arenosi maritimi Liutri, 1 Jun. 1899, *Heldreich s.n.* (M, WU); "Mani Peninsula, rupi calcaree, Kologonianika, 12 Jun. 2004," *Brullo & Musarella s.n.* (CAT); "M. Taygetos, presso Mistra, 12 Jun. 2004," *Brullo & Musarella s.n.* (CAT); "Cap Tenaro, Marmari, 11 Jun. 2004," *Brullo & Musarella s.n.* (CAT); "Kalamata, 11 Jun. 2004," *Brullo & Musarella s.n.* (CAT). **Samos:** "ca. 1 km S Samos, 17 Jun. 1983," *Krendl s.n.* (W); "Vathi, 2 May 1902," s.l. (M, WU). **TURKEY. Caria:** "C1 Mugla, zur Kiridos u Datkan, 9 Apr. 1984," *Sorger s.n.* (W). **Lydia:** "Izmir, Hugel NE von Bornova," *Fitz & Spitzenberger 614* (W); "Smyrna, Burnova in collibus calcareis," *Schwarz 584* (B); "in macchia montis ivi Kardaz prope Izmir, Asia Minore, 16 Jul. 1932," *Regel s.n.* (G); "coteaux calcaires bordant la rouche conduisant de Smyrnae Boudja," *Balanza 196* (B, G, W); "Lidia, Bunarbaschi, in monte Takhtali Dagh," *Bornmüller 9237* (W). **Mysia:** "Belikesin Ayvalik," *Fitz & Spitzenberger 598* (W). **Phrygia:** "Cannakkale (Gelibolu), kuste S Kilitbahir, 5 May–8 Jun. 1968," *Bauer, Fitz & Spitzenberger s.n.* (W); A1 Cannakkale, 29 May 1966," *Sorger*

s.n. (W); "Dardanelles, in montosis," *Ascherson 900* (PAL). **Thracia:** "in ericetis ad Bosforum, Jul. 1850," *Clementi s.n.* (Fl. M. NAP. RO, W, WU); "Constantinople, collines decouvertes près de Halkali, 21 Jun. 1896, *Aznavour s.n.* (B); "Constantinopoli, in montosis aquae dulcis, 19 Jun. 1844," *Noë s.n.* (G, W); "in agro Byzantino, ad cacumen collium Boulgourlou & Tsechonilidsicha, supra Skutari, Anatoliae, 17 Jun. 1890," *Degen s.n.* (W).

2b. *Anthyllis hermanniae* L. subsp. *melitensis*
Brullo & Giusso, subsp. nov. TYPE: Malta. "San Paulo a mare, in rupestribus apricis, 3 May 1907," *Sommier s.n.* (holotype, FI). Figures 2B₁–B₃, 3B₁–B₃.

A subspecies typica calyce 2.8–3.2(–3.5) mm longo, dentibus superioribus 1–1.4 mm longis, inferioribus 0.8–1 mm longis, vexillo apice rotundato, 5.5–6.5 mm longo, limbo 3.5–4.2 × 2.8–3.4 mm, alis 5.2–5.5 mm longis, ungue 2.3–2.5 mm longo, limbo 2.8–3 × 0.8–1 mm, carina 5.5–5.8 mm longa, unguibus 3–3.2 mm longis, anthera 0.3–0.4 mm longa, pistillo 3–3.5 mm longo, stigmatibus suborbiculari-ellipsoideo differt.

Calyx 2.8–3.2(–3.5) mm long, with upper teeth 1–1.4 mm long and lower ones 0.8–1 mm long, standard rounded at apex, 5.5–6.5 mm long, with limb 3.5–4.2 × 2.8–3.4 mm, wings 5.2–5.5 mm long, with claw 2.3–2.5 mm long and limb 2.8–3 × 0.8–1 mm, keel 5.5–5.8 mm long, with claws 3–3.2 mm long; anther 0.3–0.4 mm long, pistil 3–3.5 mm long, stigma suborbicular-ellipsoid. The other characters are similar to those of subspecies *hermanniae*.

Habitat and distribution. It occurs in the Maltese Archipelago (Malta, Gozo, and Comino) on rocky calcareous coastline (Fig. 1), where it is a member of the subhalophilous plant communities of the Crithmo-Limonietea class or garigues of the Cisto-Micromerietea class (Brullo et al., 1997).

Phenology. Flowering April to May; fruiting May to June.

Chromosome number. Unknown.

Conservation status. EN A2acd; B2a (IUCN, 2001, 2003).

Etymology. The specific epithet refers to "Melita," the ancient name of the island of Malta.

The Maltese populations have been previously referred to *Anthyllis hermanniae* L. s. str. (Sommier & Caruana Gatto, 1915; Borg, 1927; Haslam et al., 1977).

Paratypes. MALTA. **Comino:** "Insula Comino, in rupium rimis, 7 May 1907," Sommier s.n. (FI); "Comino, 27 Sept. 1985," Brullo & Pavone s.n. (CAT). **Gozo:** Gaulos "in saxosis maritimis prope Ras el Kala, 15 Apr. 1874," Duthie s.n. (FI); "Ta Cenc, 29 Jun. 1973," Brullo s.n. (CAT). **Malta:** "Insula Melita, Tabarda, 11 Apr. 1906," Sommier s.n. (FI); "Uied Encita, 13 Apr. 1906," Sommier s.n. (FI); "in saxosis maris, Marfa, 30 Apr. 1874," Duthie s.n. (FI); "Melitae, May 1847," Grech Delicata s.n. (FI); "Malta," s.d., Todaro & Calcara s.n. (FI); "Malta," s.d., s.l. (W); "Arejten Point, 25 Jun. 1973," Brullo & Ronsisvalle s.n. (CAT); "Bahriya Valley, 25 Jun. 1973," Brullo & Ronsisvalle s.n. (CAT); "Qrejten Point, 9 Apr. 1984," Brullo & Ronsisvalle s.n. (CAT); "Ras L'Iryieya, 26 Jun. 1973," Brullo & Ronsisvalle s.n. (CAT); "Rampla Tar-Torri, 26 Jun. 1973, Brullo & Ronsisvalle s.n. (CAT); "Saint Paul Bay, 11 Apr. 1987," Brullo, Pavone & Ronsisvalle s.n. (CAT); "Marfa, Armier Bay, 11 Apr. 1987," Brullo, Pavone & Ronsisvalle s.n. (CAT); "Tal Blata, 9 Apr. 1984," Brullo & Ronsisvalle s.n. (CAT); "Gar Lapsi, 10 Apr. 1984," Brullo & Ronsisvalle s.n. (CAT).

2c. *Anthyllis hermanniae* L. subsp. *sicula* Brullo & Giusso, subsp. nov. TYPE: Italy, Sicilia, "in collis Siciliae meridionalis, Terranova," May, Citarda 1106 (holotype, FI; isotype, PAL). Figures 2C₁–C₃, 3C₁–C₃.

A subspecies typica inferioribus dentibus calycis 0.9–1.1 mm longis, vexillo 7–8 mm longo, ungue 2.6–3 mm longo, limbo 4–5 × 3.5–4.2 mm, alis 6–6.5 mm longis, ungue 2.7–3 mm longo, limbo 3.5–3.7 × 1.3–1.5 mm, carina 6–6.2 mm longa, unguibus 2.8–3.2 mm longis, stamineo tubo 5–5.5 mm longo, anthera 0.3 mm longa, pistillo 5–5.2 mm longo, stigmatibus ovoideo-subconico differt.

Calyx with lower teeth 0.9–1.1 mm long, standard 7–8 mm long, with claw 2.6–3 mm long and limb 4–5 × 3.5–4.2 mm, wings 6–6.5 mm long, with claw 2.7–3 mm long and limb 3.5–3.7 × 1.3–1.5 mm, keel 6–6.2 mm long, with claws 2.8–3.2 mm long; staminal

tube 5–5.5 mm long, anther 0.3 mm long, pistil 5–5.2 mm long, stigma ovoid-subconical. The other characters are similar to those of the subsp. *hermanniae*.

Habitat and distribution. Based on herbarium and literature data, this taxon should be localized on calcareous coastal habitats of southern Sicily (Fig. 1). It has been found by Gussone (1828) near Torre Falconara (between Gela and Licata) and Palmi (today Palma di Montechiaro). There is also a herbarium specimen collected near Terranova (Gela) by Citarda (1106, FI and PAL). At the present time, the Sicilian population seems to have definitely disappeared, since it has not been recently collected.

Phenology. Flowering May to June; fruiting June.

Chromosome number. Unknown.

Conservation status. EX (IUCN, 2001, 2003).

Etymology. The specific epithet refers to "siculus," the Latin adjectival form for Sicily.

As it is possible to deduce from the herbarium material, the only records for Sicily concerning this plant are dated back to the early nineteenth century. It is likely there were very localized populations with only few plants.

Paratypes. ITALY. **Sicily:** "in collis Siciliae meridionalis, Terranova," Todaro 1106 (PAL, W); "sotto Torre Falconara," s.d., s.l. (PAL); "Torre Falconara, in aridis collibus maritimis, May–Jun.," Presl s.n. (NAP).

2d. *Anthyllis hermanniae* L. subsp. *brutia* Brullo & Giusso, subsp. nov. TYPE: Italy, "Calabria, dune di Capo Rizzuto, 24 Apr. 2002," S. Brullo & G. Giusso s.n. (holotype, CAT; isotypes, CAT, FI, MO). Figures 2D₁–D₃, 3D₁–D₃.

A subspecies typica foliis 1-foliolatis (rare 3-foliolatis), calyce 4.5–5.5 mm longo, superioribus dentibus erectis, 1.4–1.6 mm longis, inferioribus 1.5–1.7 mm longis, vexillo 7.8–9 mm longo, ungue 2.5–3.2 mm longo, limbo 5.4–6 × 4.2–4.6 mm, alis 7.2–7.8 mm longis, ungue 3.2–3.5 mm longo, limbo 4.2–4.5 × 1.5–1.8 mm, carina 6.5–7 mm longa, unguibus 3.5–4 mm longis, stamineo tubo 5–5.5 mm longo, anthera 0.3 mm longa, pistillo 6 mm longo, stigmatibus conico-ovoideo differt.

Leaves 1-foliolate (rarely 3-foliolate), calyx 4.5–5.5 mm long, with upper teeth straight, 1.4–1.6 mm long, lower ones 1.5–1.7 mm long, standard 7.8–9 mm long, with claw 2.5–3.2 mm long and limb 5.4–6 × 4.2–4.6 mm, wings 7.2–7.8 mm long, with claw 3.2–3.5 mm long and limb 4.2–4.5 × 1.5–1.8 mm, keel 6.5–7 mm long, with claws 3.5–4 mm long; staminal tube 5–5.5 mm long, anther 0.3 mm long, pistil 6 mm long, stigma conical-ovoid. The other

characters are similar to those of subspecies *hermanniae*.

Habitat and distribution. *Anthyllis hermanniae* subsp. *brutia* occurs in southern Italy, near Capo Rizzuto, Calabria (Fig. 1). It colonizes stabilized inner dunes, where it grows on sandy substrates, somewhat cemented, within garigues belonging to the Cisto-Micromerietea class (Brullo et al., 1997).

Phenology. Flowering April to May; fruiting May to June.

Chromosome number. $2n = 14$ (Peruzzi & Cesca, 2002).

Conservation status. CR C1 (IUCN, 2001, 2003).

Etymology. The specific epithet refers to "bruttia," the ancient name of Calabria.

Paratypes. ITALY. **Calabria:** "Capo Rizzuto, May 1825," *Gussone s.n.* (NAP); "tra Le Castella e Capo Rizzuto, 14 May 1825," *Gussone s.n.* (NAP); "Isola di Capo Rizzuto [Italy, prov. Crotona], Soverato entre Capo Piccolo et Le Castella, 15 Jun. 1995," *Aldobrandi, Baldini & Nepi s.n.* (B, FI, G); "Calabria a Crotona," s.d., *Fiorini-Mazzanti s.n.* (RO); "Dune di Capo Rizzuto, 7 Jun. 2004," *Brullo & Musarella s.n.* (CAT).

2e. *Anthyllis hermanniae* L. subsp. *japygica* Brullo & Giusso, subsp. nov. TYPE: Italy. "Puglia, Torre del Pizzo, Gallipoli, 23 Apr. 2002," *S. Brullo, G. Giusso & V. Tomaselli* (holotype, CAT; isotypes, CAT, FI, MO). Figures 2E₁–E₃, 3E₁–E₃.

A subspecies typical foliis 1-foliolatis (rare 3-foliolatis), dentibus calycis 0.7–1.2 longis, carina 5.5–6 mm longa, stamineo tubo 4–4.2 mm longo, anthera 0.3 mm longa, pistillo 5 mm longo, stigmate conico-ovoideo differt.

Leaves 1-foliolate (rarely 3-foliolate), calyx with teeth 0.7–1.2 mm long, keel 5.5–6 mm long; staminal tube 4–4.2 mm long, anther 0.3 mm long, pistil 5 mm long, stigma conical-ovoid. The other characters are similar to those of the subspecies *hermanniae*.

Habitat and distribution. It grows on sandy substrates and calcarenite in southern Italy near Gallipoli, Apulia (Fig. 1), where it is a member of the thermophilous garigues of the Cisto-Micromerietea class (Caniglia et al., 1974).

Phenology. Flowering April to May; fruiting May to June.

Chromosome number. $2n = 14$ (S. Brullo, unpublished data).

Conservation status. CR C1 (IUCN, 2001, 2003).

Etymology. The specific epithet refers to "Japygia," the ancient name of southern Apulia.

This subspecies was also originally collected by Gussone (1826), not far from Gallipoli in Italy. From the size and the shape of the floral parts, this subspecies may be considered as the most similar to the subspecies *hermanniae*. This is probably due to the paleogeographic history of Apulia, which had many land connections with the Balkan region, especially during the last Quaternary glaciations.

Paratypes. ITALY. **Apulia:** "Callipolem, Japigia, Jun. 1883," *Groves s.n.* (FI); "ad rupes prope Gallipoli, Jun. 1883," *Groves s.n.* (FI); "Gallipoli in saxosis aridis prope urbem," *Lacaita 84* (FI); "Gallipoli," *Lacaita 2595* (FI); "presso Gallipoli, Jun. 1886," *Baldacci s.n.* (FI); Gallipoli, 4 Jun., *Gussone s.n.* (NAP); Torre del Pizzo, Gallipoli, 23 Apr. 2002, *Brullo, Giusso & Tomaselli s.n.* (CAT).

2f. *Anthyllis hermanniae* L. subsp. *ichnusae* Brullo & Giusso, subsp. nov. TYPE: Italy. "Sardegna, Dorgali, alla base di Mte. Tolui (presso la galleria), 29 May 2002," *G. Bacchetta, S. Brullo, M. Casti & G. Giusso* (holotype, CAT; isotypes, CAT, FI, MO). Figures 2F₁–F₃, 3F₁–F₃.

A subspecies typical calyce 5.5–7 mm longo, superioribus dentibus erectis, 0.5–0.8 mm longis, inferioribus 0.8–1 mm longis, vexillo obtusiusculo apice, 10–11 mm longo, ungue 5–5.5 mm longo, limbo 5.5–6 × 4.5–7 mm, alis 10–11 mm longis, ungue 5.5–6 mm longo, limbo 4.5–5 × 1.3–1.5 mm, carina 9.5–10 mm longa, unguibus 6–6.5 mm longis, stamineo tubo 9–9.5 mm longo, anthera 0.45–0.50 mm longa, pistillo 9–9.5 mm longo, stigmate globoso differt.

Calyx 5.5–7 mm long, with upper teeth straight, 0.5–0.8 mm long, lower ones 0.8–1 mm long, standard somewhat obtuse at apex, 10–11 mm long, with claw 5–5.5 mm long and limb 5.5–6 × 4.5–7 mm, wings 10–11 mm long, with claw 5.5–6 mm long and limb 4.5–5 × 1.3–1.5 mm, keel 9.5–10 mm long, with claws 6–6.5 mm long; staminal tube 9–9.5 mm long, anther 0.45–0.50 mm long, pistil 9–9.5 mm long, stigma globose.

Habitat and distribution. *Anthyllis hermanniae* subsp. *ichnusae* is an orophilous species distributed at an altitude between 700 and 1400 m, where it is a member of the high-mountain chamaephytic vegetation of the Carici-Genistetea *lobelii* class (Klein, 1972; Arrigoni & Di Tommaso, 1991). Usually, this subspecies is found on the carbonatic substrates of certain mountains from central-eastern Sardinia, whereas it occurs on volcanic rocks much more rarely (Fig. 1).

Phenology. Flowering May to June; fruiting June to July.

Chromosome number. $2n = 14$ (Cusma Velari et al., 2002).

Conservation status. VU E (IUCN, 2001, 2003).

Etymology. The specific epithet refers to "Ich-nusa," the ancient name of Sardinia.

The Sardinian populations are morphologically more differentiated compared with the subspecies *hermanniae*. This is likely the result of their long geographic isolation.

Paratypes. ITALY. **Sardegna:** "in Monte Tolui, prope Dorgali, 25 May 1884," *Forsyth-Major s.n.* (FI); "Dorgali, Rupi del Monte Vardia, 19 Jun. 1895," *Martelli s.n.* (FI); "inter rupium montium fissuras, Dorgali, Sardin. orient., Jun.," *Moris s.n.* (FI); "Sardin.," s.d., *Moris s.n.* (G); "pr. Nuoro, Dorgali, bords de la route de la P. Scala Marina, ca.1 km de la sortie de Dorgali," *Charpin, Dittrich, Jeanmonod & Camarda AC. 17779* (FI, G); "Oliena, per la via verso Frumincorbu, 12 Jun. 1895," *Martelli s.n.* (FI); "M. d'Oliena, Punta Corrasì, 18 May 1952," *Martinoli s.n.* (FI); "in Sard.," s.d., *Huguenin s.n.* (M); "Orune, Monti su Consolo, fra le rupi, May 1899," *Martelli s.n.* (FI, W); "Orune, Magopro, 1899," *Martelli s.n.* (B); "in Sard.," s.d., *Huguenin s.n.* (WU); "Montarbu di Seui, 25 Jul. 2002," *Bacchetta, Brullo, Casti & Giusso s.n.* (CAT); "Campo Bargios, Supramonte di Urzulei, 12 Jul. 2000," *Bacchetta, Brullo, Giusso & Guarino s.n.* (CAT); "Monte Albo, cima calcarea, 20 Jun. 1996," *Brullo, De Marco & Guarino s.n.* (CAT); "fontana prima di Genna Silana, 7 Jun. 2001," *Bacchetta, Brullo, Casti & Giusso s.n.* (CAT); "Monti Ferru, Badde Urbara, 3 Jun. 2002," *Brullo, Casti & Giusso s.n.* (CAT).

2g. *Anthyllis hermanniae* L. subsp. *corsica* Brullo & Giusso, subsp. nov. TYPE: France. "Corsica, Vizzavona, sotto Mte. Rotondo, 10 Jun. 1999," *S. Brullo, G. Giusso, R. Guarino & R. Pott* (holotype, CAT; isotypes, CAT, FI, MO). Figures 2G₁–G₃, 3G₁–G₃.

A subspecies typical calyce 5–5.5 mm longo, superioribus dentibus erectis, 0.7–1 mm longis, inferioribus 0.6–1 mm longis, vexillo rotundato apice, 8–9.5 mm longo, ungue 3.7–4.5 mm longo, limbo 4.8–5.5 × 3.5–4 mm, alis 7.5–8 mm longis, ungue 3.7–4.2 mm longo, limbo 3.8–4 × 1.3–1.5 mm, carina 7–7.5 mm longa, unguibus 3.8–4 mm longis, stamineo tubo 7–7.5 mm longo, anthera 0.4–0.5 mm longa, pistillo 8 mm longo, stigmatibus globosis differt.

Calyx 5–5.5 mm long, with upper teeth straight, 0.7–1 mm long, lower ones 0.6–1 mm long, standard rounded at apex, 8–9.5 mm long, with claw 3.7–4.5 mm long and limb 4.8–5.5 × 3.5–4 mm, wings 7.5–8 mm long, with claw 3.7–4.2 mm long and limb 3.8–4 × 1.3–1.5 mm, keel 7–7.5 mm long, with claws 3.8–4 mm long; staminal tube 7–7.5 mm long, anther 0.4–0.5 mm long, pistil 8 mm long, stigma globose.

Habitat and distribution. *Anthyllis hermanniae* subsp. *corsica* is quite frequent in Corsica, where it occurs mainly on siliceous massifs and more rarely on carbonatic massifs (Fig. 1). It is found at altitudes between 800 and 2000 m, within the orophilous chamaephytic communities of the Carici-Genistetea *lobelii* class (Klein, 1972; Gamisans, 1977). It has been collected from one stand (Cap Corse, *Bernard 149*) growing almost at sea level, as a member of the thermophilous garigues of the Rosmarinetea *officinalis* class (Molinier, 1960). Those populations also occurring on the Gorgona Island (Tuscan Archipelago) are referred to *A. hermanniae* subsp. *corsica*.

Phenology. Flowering May to June; fruiting June to July.

Chromosome number. $2n = 14$ (Cardona et al., 1986; Contandriopoulos et al., 1987).

Conservation status. VU E (IUCN, 2001, 2003).

Etymology. The specific epithet refers to "Corsicus," the Latin adjectival form for Corsica.

The Corsican populations are morphologically and ecologically clearly differentiated from the Sardinian ones. In fact, the latter populations grow almost exclusively on carbonatic substrates and below 1400 m, while the Corsican populations prefer mainly siliceous substrates, reaching higher altitudes (ca. 2400 m).

Paratypes. FRANCE. **Corsica:** "Pialza près le Pont du Travo, 8 May 1935," *Aellen s.n.* (FI); "Monte Cagna, Postalasse," s.d., *Stefani s.n.* (B); "Mt Rotondo, in valli alpina prorupta Le Sciappe grolle," 10 Jul. 1880, *Lavier s.n.* (FI); "M. Rotondo," s.d., *Soleiroil s.n.* (G); "Vizzavona, sotto Mte. Rotondo, 10 Jun. 1999," *Brullo, Giusso, Guarino & Pott s.n.* (CAT); "Cap Corse," *Bernard 149* (G); "Cap Corse, à la crête du Prato Piccolo, 24 May 1968," *Salanon s.n.* (G); "Col di Teghime, inter St. Florent et Bastia, 2 Jul. 1880," *Lavier s.n.* (FI, G); "Sierra del Pigno di Bastia, 1867," *Pok s.n.* (FI); "côtes rocheuses à Bastia, *Mabille 93* (FI, G, W); "in locis saxosis maritimis circa Bastia, 10 May 1865," *Mabille s.n.* (M, WU); "Bastia, 11 Jun. 1912," *Spencer s.n.* (W); "Bastia, roches micaschisteuses aux Fango, 3 May 1867," *Debeaux s.n.* (W); "paturages des montagnes Bastia," *Kralik 532* (G, W); "Pietro Pugno, bei Bastia, 1829," s.l. (M, W, WU); "Bastia, unterhalb des Cima de Orcaro, 27 Jun. 1975," *Burri & Krendl s.n.* (W); "Bastia, in collibus aridis," s.d., *Salzmann s.n.* (G); "Monte Coscione," *Jordan 43* (B, FI, PAL, W); "Foret de Valdo-Niello sous le Col de Saint Pierre, alt. 1400 m, eboluis granitique à le limite superieure de l'hetraie," *Lambinon 8377* (B, FI, G); "Vallées du Mt Rotondo, 14 Aug. 1849," *Kralik s.n.* (W); "M. Renoso, 2 Aug. 1849," *Kralik s.n.* (G); "Monte d'Oro, 2400 m, Jul. 1938," *Rauh Halle s.n.* (B); "Forêt d'Aitone," *Reverchon 62* (B, G, M, PAL, RO, W, WU); "coteaux in cultes pres Bastelica," *Bougeau 20* (W); "Bastelica," *Reverchon 62* (M, WU); "Kessel von Tribulaccio, 18 Jul. 1981," *Vitek s.n.* (M, WU); "Corse," s.d., *Moricand s.n.* (NAP); "Lac de Nino, Aug. 1847," *Requien s.n.* (G); "Popaia, presso Col de Vergio, 12 Jun. 1999," *Brullo*

& Giusso *s.n.* (CAT); “strada per Me. Cinto, presso Asco, 11 Jun. 1999.” *Brullo, Giusso, Guarino & Pott s.n.* (CAT); “Morosaglia, discarica, 28 May 2004.” *Brullo, Bacchetta & Casti s.n.* (CAT); “Ponte di Noceta, Venaco, 29 May 2004.” *Brullo, Bacchetta & Casti s.n.* (CAT), ITALY. **Tuscany:** “Insula Gorgona,” *s.d.*, *Sani s.n.* (FI); “nei pascoli nell’isola di Gorgona, Jun. 1840,” *Sani s.n.* (FI); “in saxosis siccis Gorgoniae, Jun. 1840.” *Sani s.n.* (FI).

KEY TO THE SPECIES OF THE *ANTHYLLIS HERMANNAE* GROUP FROM MEDITERRANEAN EUROPE

- 1a. Shrub densely spiny; leaves linear-lanceolate, acute; flowers solitary, rarely 2; calyx 1.8–3 mm long; standard 4–5 mm long 1. *A. hystrix*
- 1b. Shrub laxly spiny or subsppinescent; leaves spatulate to oblanceolate, somewhat obtuse to slightly retuse; flowers in fascicles of 2 to 6; calyx 2.8–7 mm long; standard 5.5–11 mm long.
 - 2a. Calyx 2.8–4.5 mm long, with teeth (at least the upper ones) curved (or curved-divaricate); wings 5–6.5 mm long; keel 5–6 mm long; pistil 3–5 mm long.
 - 3a. Calyx 2.8–3.2 mm long; standard rounded 2b. *A. hermanniae* subsp. *melitensis*
 - 3b. Calyx 3.2–4.5 mm long, standard retuse.
 - 4a. Standard 7–8 mm long 2c. *A. hermanniae* subsp. *sicula*
 - 4b. Standard 5.5–6.5 mm long.
 - 5a. Leaves 1-foliolate (rarely 3-foliolate); calyx teeth 0.7–1.2 mm long; staminal tube 4–4.2 mm long 2f. *A. hermanniae* subsp. *japygica*
 - 5b. Leaves 1- to 3-foliolate (rarely 5-foliolate); upper calyx teeth 1.2–2 mm long; staminal tube 4.5–5 mm long 2a. *A. hermanniae* subsp. *hermanniae*
 - 2b. Calyx 4.5–7 mm long, with all teeth straight; wings 7–11 mm long; keel 6.5–10 mm long; pistil 6–9.5 mm long.
 - 6a. Calyx 5.5–7 mm long; standard 10–11 mm long, somewhat obtuse; wings 10–11 mm long, keel 9.5–10 mm long; staminal tube 9–9.5 mm long 2f. *A. hermanniae* subsp. *ichnusae*
 - 6b. Calyx 4.5–5.5 mm long; standard 7.8–9.5 mm long, rounded or retuse, wings 7.2–8 mm long, keel 6.5–7.5 mm long, staminal tube 5–7.5 mm long.
 - 7a. Leaves 1-foliolate (rarely 3-foliolate); standard retuse; staminal tube 5–5.5 mm long; anther 0.3 mm long; pistil 6 mm long 2d. *A. hermanniae* subsp. *bruttia*
 - 7b. Leaves 1- to 5-foliolate; standard rounded; staminal tube 7–7.5 mm long; anther 0.4–0.5 mm long; pistil 8 mm long 2g. *A. hermanniae* subsp. *corsica*

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